The Maine Installer

Dedicated to Professionalism in Underground Tank Installation

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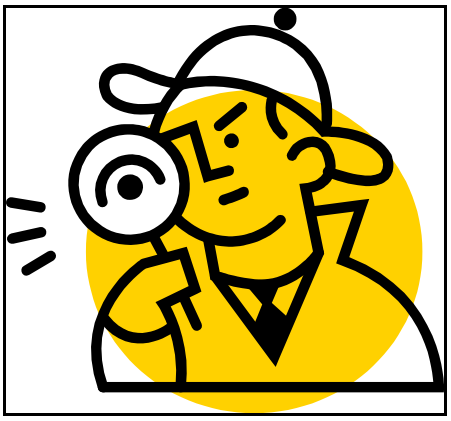
DEP Compliance Inspections of 2002

Editor's Note. In this issue, we present two sets of information on inspection results for the 2002 field season. One article summarizes inspection results by DEP, while the other provides information from inspections required to be accomplished by certified installers or other recognized inspectors from the private sector.

From the early 1990's through 2001, DEP inspected 80 to 130 underground oil storage tank (UST) facilities per year. These inspections included about 9% of all motor fuel storage facilities each year. During this time, DEP targeted facilities with known compliance problems and those that pose a significant threat to groundwater. In 2002, the number of inspections was quadrupled to 520 UST facilities, or 18% of all UST sites as part of a Federal and State initiative to establish a highly visible field presence. A breakdown of the inspections be facility type follows below.

	Percentage of Inspections	Percentage of all Facilities
Wholesale & Retail	70	41
Towns and Schools	9	17
Commercial and Industrial	14	21
All Other	7	21

This was no small task. Early in the year we developed a plan to inspect facilities in each county. Some facilities were targeted because they had a high potential for a petroleum discharge or because there was a history of compliance



problems, most were selected at random on the day of inspection. In general, we inspected facilities where ownership had changed since DEP staff had last visited, or where more than three years had passed since DEP staff had visited the fa-

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Inside This Issue

Results of Installer's Inspections in 2002 and 2003

During the calendar year 2002, the Department of Environmental Protection (DEP) began implementing a new law (*see page 5 for more details on the law)* that requires submittal of the Annual Tank System Inspection form to the Department for review began. DEP also updated and expanded the inspection form to strengthen consistency with the law. Prior to the law, annual inspections were still required, but not required to be submitted. However, DEP obtained a number of them either through voluntary submittal or by request. This article provides information on both sets of submittals.

In 2001, DEP received over 1,100 inspections in that manner. Many of these indicated problems at the location, some that were repaired and others that were not.

In 2002, DEP received and reviewed about 1500 of the required annual inspection forms. These have been logged into a database for follow-up. It represents about 50% of the total number of facilities in the state.

775 of the inspections received in 2002 were on the Department's new inspection form. Starting July 1, 2003, all facilities must submit to the Department a passing Annual Tank System Inspection. Of the inspections that count towards the July 1, 2003 deadline, over 600 of the facilities had passing results for the tanks and 310 had passing results for vapor recovery. Of the 775 inspections submitted on the new forms, less than half were gasoline dispensing facilities that required vapor recovery.

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DEP Compliance Inspections of 2002

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cility.

About 70% of all facilities inspected were in "substantial operational compliance" with the applicable rules for leak detection, overfill prevention and corrosion protection. This is a Federal term meaning that a facility, while not necessarily in perfect compliance, did not have any significant violations. In practical terms, a finding of "substantial operational compliance" means that DEP did not issue a Notice of Violation (NOV) to the facility.

Some readers may recall that three years ago, the Department contracted Marcel Moreau Associates (MMA) to conduct a study of compliance with the rules for annual maintenance inspections. The resulting *Study of Maine Underground Storage System Annual Inspection Reports,* dated July 2000, reported that 72% of the UST facilities sampled had a valid annual inspection conducted in 1999. DEP's inspections of 2002 show a similar compliance rate we found was similar to that of the MMA report.

The table below lists the violations found, in order of relative frequency, with 5 being the highest.

Maintain leak detection system	5
Reconcile inventory for leak detection	4
Report Evidence of Possible Leak	3
Submit annual SIA	3
Maintain Cathodic Protection	2
Retrofit Overfill Protection Equipment	2
Report Broken Equipment	1

Because the applicable rules differ depending on facility design and installation date, not all of the violations listed above are possible at all facilities. For example, the required method of leak detection for single walled motor fuel tank (installed before 1991) are monthly inventory reconciliation combined with an annual SIA; whereas leak detection for a double walled motor fuel tank with pressurized double walled piping consists of continuous electronic monitoring of both tank and piping interstitial spaces.

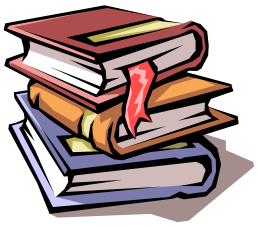
"The 2002 inspections showed us that while compliance is improving, much remains to be done."

Of all the facilities inspected, 11% (57) failed to maintain their leak detection equipment and 9% (47) failed to properly reconcile inventory monthly. This means that at least 20% of all facilities inspected failed to comply with an applicable leak detection rule. This finding is of particular concern considering that most of the facilities used electronic leak detection equipment. Only about 25% use daily inventory and monthly reconciliation for leak detection.

The UST rules seek to prevent petroleum impacts to the environment from leaks and spills, whether the cause is a corrosion hole in a tank, a weep at a dispenser, a piping failure or an overfilled spill bucket. The 2002 inspections showed us that while compliance is improving, much remains to be done.

Over the past decade, the population of UST's and piping has steadily shifted from single walled facilities with manual leak detection methods to tanks and piping with secondary containment and electronic or mechanical equipment for leak detection and spill prevention. In 2003, 72% of the facilities constructed after DEP assumed oversight authority have secondary containment with electronic leak detection systems. While maintenance and operation of this equipment is ultimately the responsibility of tank owners and operators, the certified tank installer (CTI) hired to annually inspect and maintain the facility can help ensure the facility is operated in compliance with DEP rules. The Department can prohibit delivery of product to a non-compliant facility after July 1, 2003. A proactive CTI can help the facility owner avoid this result or other enforcement action .

DEP Developing UST Guide for Owners and Operators



The Department is developing a plain language guide to help owners and operators of underground petroleum storage sites so as to assist owners and operators of those facilities in understanding DEP rules. Unfortunately, we've not figured out how to make the document any shorter. We have, however, tried to make the principles more understandable, organize the information better, and illustrate major points with graphics.

The effort is being accomplished under contract with Ben Thomas Associates. The guide, entitled "Making Sense of Maine's Underground Tank Rules," is in draft form.

If you would like a copy or would like to distribute copies to your clients, please let DEP staff know and we'll put you on a list to receive the documents once they are available.

Removal Deadlines Explained

Maine Law, specifically Title 38 MRSA §564(5), requires abandonment (removal) of underground tanks and associated piping upon expiration of the manufacturer's warranty. This law applies to tanks used to store motor fuels, tanks used in marketing and distribution of oil, and tanks that supply product to a generator. We received several inquiries about this provision lately and thought it deserved more explanation.

In most cases this requirement is relatively straightforward. When tanks of a type subject to this law are no longer covered by the manufacturer's warranty, the tanks must be removed. That said, the law includes a special provision for fiberglass or cathodically protected steel tanks installed prior to December 31, 1985. The removal requirement does not apply to those tanks until January 1, 2008.

In some cases facility owners are not sure what kind of tanks they have and have not retained any of the warranty information. How does one determine the removal deadline for such tanks? In these cases, we must draw conclusions based on the information available and also what we currently know about various tank manufacturers and the warranties they provide.

Most UST manufacturers provided a thirty-year warranty on their tanks. One known exception is that of cathodically protected (CP) steel tanks. The majority of CP tanks installed during the mid 1980's and early 90's met the design standards patented by the Steel Tank Institute (STI). Under those standards, CP tanks manufactured and shipped prior to October 15, 1985 were warranted for twenty (20) years. Warrantees on CP tanks manufactured and shipped after this date were extended to thirty (30) years.

Here are some examples of the removal deadlines for motor fuel tanks:

1. A 13,000-gallon double walled fiberglass tanks was manufactured by Owens-Corning (now Containment Solutions Corp. and formerly also doing business as Fluid Containment, Inc.). The tank was installed on September 12, 1994 and has a thirty (30) year warranty. The removal deadline for this tanks would be September 12, 2024, thirty (30) years from the installation date.
2. A 6,000 gallon $STIP_3$ single walled cathodically protected steel tank was installed on July 1, 1985 and carries an twenty (20) year warranty. This must be removed by January 1, 2008 by law.
3. A 20,000 gallon double walled jacketed tank with 2 chambers was manufactured by Plasteel. The tank was installed on July 25, 2002 and has a thirty (30) year warranty. The removal deadline for this tank would be July 25, 2032, thirty (30) years from the installation date.

Operation of an underground storage tank until the end of the manufacturer's warranty period is allowed provided the warranty has not been voided due to improper installation, damage, or improper use. Any one of these factors may void the manufacturer's warranty in which case the tank must be removed immediately. Tanks that remain under warranty must be operated in accordance with all regulatory requirements such as corrosion protection, leak detection, spill containment, and overfill pre-

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Installer's Inspections in 2002 and 2003

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The most common causes of failures are the following (in order of appearance on the inspection form.

- Incomplete or incorrect inventory records;
- No groundwater monitoring records;
- Electronic leak detectors that are not operational;
- Probes in secondary containment that no longer work;
- Broken lids and/or rings;
- Lack of overfill device or inability to access the overfill device;
- Overfill device that is set at the wrong height;
- Dirty spill buckets;
- Line leak detectors that don't work;
- No throughput data for the prior year;
- Crash valves set either too low or too high to be effective; and
- Failing cathodic protection.

Some of these problems are easy to correct, others are a little more difficult and some may require a major investment by the facility owner.

Often it is not enough to perform the inspection and provide the results to the facility owner. Particularly in the case of a failing inspection, the installer should review the cause of the failure with the owner and advise the owner on repair or replacement of equipment as necessary.

Where do we stand regarding inspections for the July 1, 2003 deadline? There are nearly 3200 registered facilities in the State and they have a total of about 5,500 tanks. Having only received about 700 inspections of which only 600 had passing results it appears that there will be a lot of work to be done by everyone that performs inspections in the next few months. It will be critical that all of the facilities are brought into compliance by July 1, 2003, since the Department may issue Orders prohibiting delivery of product to underground storage tanks and piping that failed to pass an annual inspection by that time.

If you have any questions about annual maintenance inspections, please contact staff of the Oil Enforcement Unit at 207/287-2651.

Inspecting Overfill Protection

DEP's annual inspection requirements include ensuring leak detection devices are present, installed at the proper height and operating properly. We noticed that the ability to determine if flow-restricting overfill protection devices are actually operating varied greatly among brands. We've been working with the manufacturers to ensure all the brands can be inspected on a routine basis so their operation can be tested. The three brands and models we know about are the OPW 61SO, the EBW Model 708 AutoLimiter II, and the Emco-Wheaton Model A1100.

The OPW 61SO (Figure 1) is perhaps the most familiar of the three used in Maine and historically the most amenable to inspection. It operates using a float that is attached to the device on the exterior of the drop tube. When the product level causes the float to move, it allows a valve in the interior of the drop tube to close. In order to inspect this device, the drop tube is extracted from the tank and the float is visually inspected for integrity. When the float is manually rotated to a 90° angle from the tube, the flapper will protrude past the deflector. This will indicate that the flapper is working properly. Remember to make sure the the device is inserted at least 6.5 inches into the tank so that the float can swing freely (min of 8" for an 8' dia. tank). Questions on this model can be directed to David Haas at OPW (Dhaas@OPW-FC.com, 513/870-3370) or to DEP oil enforcement staff.

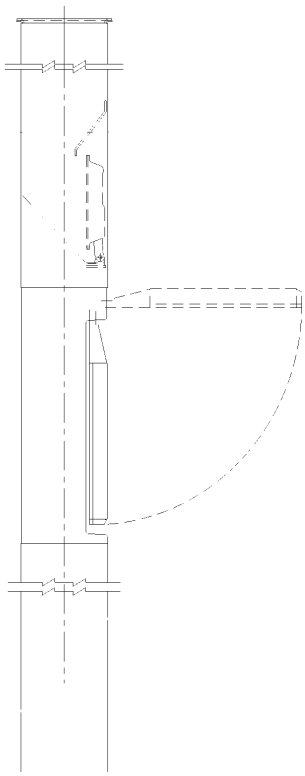

Figure 1. OPW 61SO.

Historically, no method existed to test the EBW Model 708 AutoLimiter II. However, the manufacturer has developed one at DEP's request. To obtain a set of written inspection instructions, contact either the DEP or the manufacturer (EBW Customer Service @ 800-475-3291 or *www.ebw.com*). If requesting the written instructions from the manufacturer, please specifically reference the "6329 form." The method calls for old units to be retrofitted using a kit available at petroleum equipment suppliers who handle EBW products. New units are being outfitted appropriately. In oversimplified form, an allen wrench is inserted through a tapped hole in the device to trip valves in the device. The wrench is used to simulate an overfill event. Technical questions can be referred to Jim Biesecker, Mfg. Eng., jbiesecker@FELE.com or 800-475-5151 ext. 2901.

Likewise, Emco-Wheaton provided a test methodology at DEP's request for its A1100 unit. This test consists of two parts, the first being a float integrity test and the second an on site functional test procedure. The float integrity test basically involves examining the unit as a whole for signs of damage, then removing the float, filling it with water, and seeing if it leaks. The functional test procedure is somewhat like the one described for the EBW device, in that an allen wrench is used to simulate overfills by springing valves from the outside. Like the EBW device, DEP has a set of testing instructions which we can provide, or Jim Lawrence of Emco-Wheaton (800/234-4394) can answer questions on the test protocol.

Removal Deadlines Explained

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vention. It is extremely important for a facility owner to maintain accurate records including warranty information, inspection results, and maintenance logs.

A list of some of the underground tank manufacturers and contact information is listed below.

Containment Solutions	(800)628-2657 X213
Drummond	(800)361-5050 X305
Highland Tank	(717)664-0600
Mohawk Metal	(800)765-3110
Plasteel	(760)729-1093
Total Containment	(877)668-6825
TANX	(603)543-1272
Xerxes Corp.	(612)887-1836
Steel Tank Institute (STI)	(847)438-8265

Review of Legislation Formalizing Tank Inspection Requirements

Since their inception, the Department of Environmental Protection (DEP) rules regarding underground tanks have required annual inspection and maintenance of leak detection, spill and overfill prevention equipment. Historically, owners and operators of underground storage facilities simply had to maintain records of annual inspections and make them available to DEP staff on request.

In 2000 a study of the compliance rate for UST inspections (see *"Two Studies Recommend Evolution of Underground Tank Program,"* in the March 2001 (volume 9 issue 1) edition of The Maine Installer) indicated 28% of facilities randomly selected failed to have an annual inspection done in 1999. In addition, 39% of the sites that were inspected failed to correct the deficiences that were found.

Poor compliance with inspection requirements puts groundwater at risk statewide. Legislation enacted in the spring of 2001 (P. L. 2001 Chapter 231) strengthens inspection programs by requiring mandatory reporting of annual inspection results to DEP and augments the DEP's authority to enforce against non-compliant facilities.

Specifically, the legislation establishes a requirement for UST owners to submit a completed inspection form, supplied by DEP, by July 1 each year. The first forms from the owners are due into the Department on or before July 1, 2003. Annual submittals will follow.

The law also authorizes the Department to issue administrative orders prohibiting delivery of oil to facility owners, who, after notification and reasonable opportunity to correct violations, fail to submit passing facility inspection reports to the Department.

Department staff have developed inspection forms and an inspection handbook for installers and inspectors to use. Copies of the form and handbook are available from the DEP (287-2651) or online at http://www.state.me.us/dep/rwm/usts.htm (click on rules and forms)

Seminars on how to use these new forms were held in May and June of 2002. We hope to continue a program of continuing education on the inspection process. A notice was also sent out to tank owners in early July of 2002 explaining the new requirements.

By July 2003, DEP hopes to have upgraded DEP's computer capability in order to address these standards and have amended the State's underground tank rules (06-096 CMR c. 691) to provide for this legislative mandate. These annual inspections and the maintenance work that inevitably results should result in a steady demand for installer services.

Progress Continues on Certifying Inspectors

Back in 2001, the Board of Underground Storage Tank Installers (BUSTI) received authority from a law that was enacted to certify underground oil storage tank inspectors. That provision was enacted along with authority for DEP to require facilities to submit proof of passing inspections annually. After the program becomes completely operational, both certified installers and inspectors will be qualified to conduct annual inspections. Representatives of equipment manufacturers, however, would now have to obtain certificates as inspectors to conduct such inspections.

Last year, as you may remember, the Board amended its rules to provide for the certification process for inspectors. Two things remain, both of which are being undertaken.

The first is the development of a certification examination for the inspector certificate. We've contracted with Marcel Moreau Associates in Portland to develop the examination. They are currently developing the draft study guide, from which the examinations will be constructed.

The second is amendment of DEP's rules on underground tanks (the now infamous Chapter 691) in order to allow inspections to be conducted by inspectors and to limit the activities of un-certified folks. Of course, all proposed rules involve a period allowing for public comment and the installers will be notified when that comment period will begin and end.

Annual inspection certifications are first due from owners or operators of underground oil storage facilities on or before July 1, 2003 and annually thereafter. The 2001 Legislation gave the DEP authority to prohibit delivery to facilities which have not met the inspection requirement.

The Maine Installer

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Goodbye Beth

One of the longtime members of DEP's oil enforcement unit just left for greener pastures, or at least more fertile. Beth DeHaas decided to try her hand at the Department's efforts in regulating wastewater treatment plants.

Beth has a long history of assisting other folks at DEP, installers, and the public, in managing the underground oil storage facilities in Maine. She also developed a national reputation through her work in the national leak detection work group.

While insisting on strong environmental protection, she brought with her a practical insight in how to make our rules workable at the small facility operator level.

We'll miss her presence across the aisle, but are glad to know she remains close by — on the other side of the building — in case we have questions.

Good luck, Beth!!

National Tank Testing Firm Sentenced

Tanknology-NDE. International, Inc. was sentenced October 30, 2002 in federal district court in Austin, Texas to pay a $1 criminal fine and restitution of $1.29 million to the United States for false underground storage tank (UST) testing services performed by its employees, the Justice Department and the U.S. Environmental Protection Agency announced.

"[This] sentencing demonstrates that the United States will not hesitate to prosecute those who falsify reports that can result in injury to the environmenta and to the health of our citizens," said Tom Sansonetti, Assistant Attorney General for the Justice Department's Environment and Natural Resources Division.

The false tests ranged from failing to follow required test protocols to "drive-by" tests.